

Title of Article: Comparative Analyses between Split and HierarchyMap Treemap Algorithms for Visualizing Hierarchical Data

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Abstract: We carried out comparative analysis between Split treemap algorithm and a more recently introduced treemap algorithm called HierarchyMap. HierarchyMap and Split are Treemap Visualization methods for representing large volume of hierarchical information on a 2-dimensional space. Split layout algorithm has been developed much earlier as an ordered layout algorithm with capability to preserve order and reduce aspect ratio. HierarchyMap is a newer ordered treemap algorithm developed to overcome certain deficiencies of the Split layout algorithm. The two algorithms were analyzed to compare their rate of complexity. They were also implemented using object-oriented programming tool and compared using a number of standard metrics for measuring treemap algorithms.

Their implementation shows that HierarchyMap and Split although maintain the same level of data ordering and usability but HierarchyMap algorithm has better aspect ratio, better readability, low run-time, and less number of thin rectangles compared to Split treemap algorithm. Since aspect ratio is an important metric for determining the efficiency of treemaps on 2-D and small screens, and the result of the analysis shows that HierarchyMap is better efficient than Split treemap algorithm, we conclude that HierarchyMap is more efficient than Split treemap algorithm.